

1 9. (Amended) A process for controlling the pressure within a[n] chamber, comprising the
2 steps of:

3 generating a pressure sensor signal responsive to the pressure in said chamber;

4 generating a step command signal responsive to said pressure sensor signal and a tool
5 logic signal, said step command signal generating comprising applying a pressure control
6 algorithm to said pressure sensor and tool logic signals;

7 generating a direction/speed command signal responsive to said step command signal
8 and a valve position feedback signal, said direction/speed command signal generating
9 comprising applying a position control algorithm to said step command and valve position
10 feedback signals;

11 actuating a valve responsive to said direction/speed command signal, said actuating
12 resulting in said valve residing in a position, said valve in fluid communication with said
13 chamber; [and]

14 generating [said]a valve position error feedback signal responsive to said[the]
15 position of said valve; and

16 repeating said direction/speed command signal generating step, said actuating step
17 and said valve position error generating step substituting said valve position error feedback
18 signal for said valve position feedback signal.

tool logic
signal
→ step
pressure
set-point
control
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lines 9-11

1 14. (Amended) A process for controlling the fluid flow through a conduit, comprising the steps of:

2 generating a flow sensor signal responsive to the flow in said conduit;

3 generating a step command signal responsive to said flow sensor signal and a tool logic
4 signal, said step command signal generating comprising applying a pressure control algorithm to
5 said pressure sensor and tool logic signals;

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7 generating a direction/speed command signal responsive to said step command signal and a
8 valve position feedback signal, said direction/speed command signal generating comprising
9 applying a position control algorithm to said step command and valve position feedback signals;
10 actuating a valve responsive to said direction/speed command signal, said actuating resulting
11 in said valve residing in a position, said valve in fluid communication with said conduit; [and]
12 generating [said]a valve position error feedback signal responsive to said[the] position of
13 said valve; and
14 repeating said direction/speed command signal generating step, said actuating step and said
15 valve position error generating step substituting said valve position error feedback signal for said
16 valve position feedback signal.